Amendments to:

2040 Metro Vision Regional Transportation Plan & associated air quality conformity

Board of Directors
May 15, 2019

Presented by:

Jacob Riger, AICP
Transportation Planning & Operations
Metro Vision Plan and 2040 MVRTP Overview

DRCOG Metro Vision Plan
Shared vision for the future

- 20-year “vision” transportation system
- 20-year affordable transportation system
- 4-year program of funded projects

Metro Vision Regional Transportation Plan (MVRTP)

Fiscally Constrained Regional Transportation Plan

Air Quality Conformity Reg. Modeling

Project Development NEPA Studies
NEPA – National Environmental Policy Act (1970)

Transportation Improvement Program

Construct Project
2040 Metro Vision Regional Transportation Plan Overview

- Presents region’s vision for multimodal transportation system
- Addresses federal requirements – core MPO function
- Identifies “fiscally constrained” (cost feasible) system & project investments
- Identifies major roadway capacity & rapid transit projects
- Determines eligibility for major projects to compete for Transportation Improvement Program funding
- Helps implement Metro Vision
- Is updated every four years and amended more frequently
Requested Project Amendment Locations

3 Types of Amendments
- New Projects
- Removed Projects
- Air Quality Staging Period Changes
# Requested Project Amendments

<table>
<thead>
<tr>
<th>Amendment Requestor</th>
<th>Project/Segment Description</th>
<th>Current 2040 MV RTP Status</th>
<th>Proposed 2040 MV RTP Project Amendment</th>
</tr>
</thead>
<tbody>
<tr>
<td>City of Aurora</td>
<td>48th Avenue (Imboden Road to Quail Run Road): Widen 2 to 6 Lanes</td>
<td>2030-2040</td>
<td>Remove from 2040 MV RTP</td>
</tr>
</tbody>
</table>
| City of Aurora      | 48th Avenue (Powhaton Road to Monaghan Road): New 6 Lanes                                  | 2030-2040                  | • Change to new 4 lanes  
  • Add initial 2 lanes in 2020-2029 AQ stage  
  • Complete full 4 lanes in 2030-2040 AQ stage |
| City of Aurora      | 56th Avenue (Powhaton Road to Imboden Road): Widen 2 to 6 Lanes                           | 2020-2029                  | Change widening to 2 to 4 lanes in 2030-2040 AQ stage                                                |
| City of Aurora      | 64th Avenue (Himalaya Road to Harvest Mile Road): Widen 2 to 4 Lanes                       | 2020-2029                  | Add widening from 4 to 6 lanes in 2030-2040 AQ stage                                                |
| City of Aurora      | Harvest Mile Road (I-70 to 48th Avenue): New 6 Lanes                                       | 2020-2029                  | Remove I-70 to 48th Avenue segment from 2040 MV RTP. (Define new alignment in project below.)          |
| City of Aurora      | Harvest Mile Road/Powhaton Road (I-70 to 26th Avenue): New 6 Lanes                       | N/A                        | • New locally derived funded lanes with modified Harvest Mile Road alignment  
  • Add initial 2/4 lanes to 2020-2029 AQ stage  
  • Complete full 6 lanes in 2030-2040 stage |
| City of Aurora      | Powhaton Road (26th Avenue to 48th Avenue): New 6 Lanes                                  | N/A                        | • New locally derived funded 6 lanes  
  • Add to 2020-2029 AQ stage                                                                          |
| City of Aurora      | Monaghan Road (I-70 to 64th Avenue):                                           
  • New 4 lanes between I-70 and 26th Avenue  
  • Widen 2 to 4 lanes between 26th Avenue and 56th Avenue  
  • New 4 lanes between 56th Avenue and 64th Avenue | N/A                        | • New locally derived funded projects  
  • Add to 2030-2040 AQ stage                                                                         |
| City of Aurora      | Picadilly Road (Jewell Avenue to 6th Avenue Parkway/SH-30): New 4 Lanes                 | 2020-2029                  | Remove from 2040 MV RTP                                                                                |
### Requested Project Amendments (cont’d)

<table>
<thead>
<tr>
<th>Amendment Requestor</th>
<th>Project/Segment Description</th>
<th>Current 2040 MVRTP Status</th>
<th>Proposed 2040 MVRTP Project Amendment</th>
</tr>
</thead>
<tbody>
<tr>
<td>City of Aurora</td>
<td>Quail Run Road/Imboden Road (I-70 to 48th Avenue): New 6 Lanes</td>
<td>2030-2040</td>
<td>Change from new 6 lanes to new 4 lanes; modify alignment</td>
</tr>
<tr>
<td>City of Aurora</td>
<td>Imboden Road (48th Avenue to 56th Avenue): Widen 2 to 6 Lanes</td>
<td>2030-2040</td>
<td>Change widening to 2 to 4 lanes</td>
</tr>
</tbody>
</table>
| City of Aurora      | E-470/38th Avenue: New Interchange | N/A | • Add new locally derived funded interchange  
• Add to 2020-2029 AQ stage |
| City of Aurora      | Steve D. Hogan (6th Avenue) Parkway (SH-30 to E-470): New 2 Lanes | 2020-2029 AQ stage | • Advance to 2015-2019 AQ stage  
• Change to locally derived funded project |
| City of Aurora      | SH-30 (Steve D. Hogan Parkway to Mississippi Avenue): Widen 2 to 4 lanes | N/A | • New locally derived funded widening  
• Add to 2020-2029 AQ stage |
| City of Thornton    | 104th Avenue/SH-44 (Grandview Ponds to McKay Road): Widen 2 to 4 Lanes | 2020-2029 AQ stage | Change project limits to Colorado Boulevard to McKay Road |
| City of Thornton    | Thornton Parkway (Colorado Boulevard to Riverdale Road): Widen 2 to 4 Lanes | 2030-2040 AQ stage | Advance to 2015-2019 AQ stage |
| RTD                 | North Metro Rail (N) Line | 2015-2019 AQ stage | Change AQ stage period to 2020-2029 |
Public Hearing Documents – 2040 MVRTP

- Summary of proposed 2040 Metro Vision Regional Transportation Plan (MVRTP) amendments
- 2040 MVRTP public hearing draft (April 2019)
- Denver southern subarea 8-hour ozone conformity determination
- Draft CO and PM10 conformity determination
Public Input

- 30 day public comment period
  - Notification: website, social media, email blast, postcards, newspaper, etc.

- Public hearing
  - Capstone of public comment period
  - Usually held one month before Board action

- No public comment received

- Questions from DRCOG Board members about air quality emissions calculations and compliance
Regional Air Quality Conformity – 2040 FC-RTP

- Must address ozone, carbon monoxide, and PM-10 (particulate matter) pollutants
  - Motor vehicle emission budgets established in State Implementation Plan (SIP)
  - For **ozone**: on-road motor vehicle emissions are about 16% of VOCs and 31% of NOx
- Regional air quality conformity is for regional system, **not** individual projects
  - Amendment changes are reflected in regional travel model
- Emission modeling based on most recent planning assumptions
  - Demographics, transportation networks and services, vehicle fleet characteristics, etc.
  - Cleaner vehicles replacing older vehicles
  - DRCOG conducts model runs to produce VMT and operating speeds - - - > CDPHE
  - CDPHE completes final emission calculations and results: must be < budgets

- Amended 2040 FC-RTP passed all emission budget tests
DRCOG Mobile Source Ozone Precursor Emission Results
2018 Amendments

VOC Emission Results (tons per day)

- Mobile Source VOC Emissions
  - 2020: 47 tons per day
  - 2030: 29 tons per day
  - 2040: 22 tons per day

- Mobile Source VOC Budget
  - 2020: 43 tons per day

NOx Emission Results (tons per day)

- Mobile Source NOx Emissions
  - 2020: 61 tons per day
  - 2030: 48 tons per day
  - 2040: 26 tons per day

- Mobile Source NOx Budget
  - 2020: 48 tons per day
• Emissions (mobile sources) for CO and NOx decline over time. PM-10 Increases slightly.

<table>
<thead>
<tr>
<th>Pollutant and Area</th>
<th>SIP Budgets</th>
<th>Emission Results</th>
<th>Pass/Fail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon Monoxide in Denver</td>
<td>2020 - 1,625</td>
<td>472</td>
<td>Pass</td>
</tr>
<tr>
<td>Attainment Maintenance Area</td>
<td>2021 - 1,600</td>
<td>453</td>
<td>Pass</td>
</tr>
<tr>
<td></td>
<td>2030 - 1,600</td>
<td>290</td>
<td>Pass</td>
</tr>
<tr>
<td></td>
<td>2040 - 1,600</td>
<td>205</td>
<td>Pass</td>
</tr>
<tr>
<td>Carbon Monoxide in Longmont</td>
<td>2020 - 43</td>
<td>9</td>
<td>Pass</td>
</tr>
<tr>
<td>Attainment Maintenance Area</td>
<td>2030 - 43</td>
<td>6</td>
<td>Pass</td>
</tr>
<tr>
<td></td>
<td>2040 - 43</td>
<td>4</td>
<td>Pass</td>
</tr>
<tr>
<td>Denver Area PM₁₀</td>
<td>2020 - 54</td>
<td>27</td>
<td>Pass</td>
</tr>
<tr>
<td></td>
<td>2022 - 55</td>
<td>28</td>
<td>Pass</td>
</tr>
<tr>
<td></td>
<td>2030 - 55</td>
<td>31</td>
<td>Pass</td>
</tr>
<tr>
<td></td>
<td>2040 - 55</td>
<td>33</td>
<td>Pass</td>
</tr>
<tr>
<td>NOx associated with PM₁₀</td>
<td>2020 - 70</td>
<td>39</td>
<td>Pass</td>
</tr>
<tr>
<td></td>
<td>2022 - 56</td>
<td>34</td>
<td>Pass</td>
</tr>
<tr>
<td></td>
<td>2030 - 56</td>
<td>22</td>
<td>Pass</td>
</tr>
<tr>
<td></td>
<td>2040 - 56</td>
<td>16</td>
<td>Pass</td>
</tr>
</tbody>
</table>
THANK YOU!